

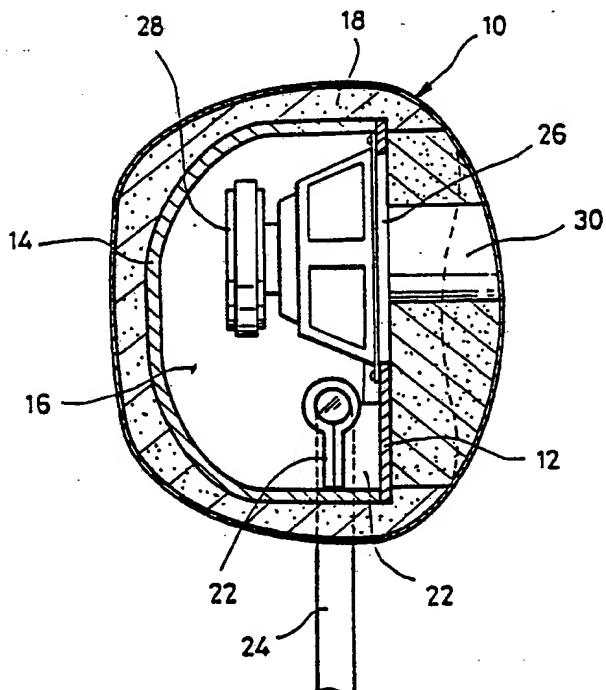


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(54) Title: HEADREST CONTAINING LOUDSPEAKERS FOR MOTORCAR



(57) Abstract

A headrest for motorcar comprises a frame (12), an enclosure (14) defining a space (16), and an outer pad (18) covering said frame (12) and said enclosure (14). Said frame (12) is formed with two circular holes (26 and 26') to attach the speaker units (28 and 28'), and said space (16) contains said speaker units (28 and 28').

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## HEADREST CONTAINING LOUDSPEAKERS FOR MOTORCAR

## FIELD OF THE INVENTION

The present invention relates to a headrest for motorcar, particularly to a headrest containing loudspeakers therein by which it is  
5 made possible to provide a quiet and distinct sound for passenger.

## DESCRIPTION OF THE PRIOR ART

In prior art, loudspeakers of an audio system for motorcar have placed in a right side and a left side of a front compartment and/or a rear compartment for a driver and passengers. Therefore the loud-  
10 speakers is relatively remote from the occupants who listen the sound transmitted from them. The sound from loudspeakers which is mounted in the compartment so that they can listen the sound such as music a announcement. Heretofore, there is no system from which the sound can be transmitted to a specific individual. Moreover, in case of an  
15 ownerdriver, it is desirable for him that the loudspeakers are mounted to a place adjacent to his ears in order to listen a quiet music as being transmitted from a headphone and drive the motorcar without missing a circumstantial judgment regarding to the driving.

Also, it is known that an audio system for motorcar is provided  
20 with loudspeaker which can be shifted in places. But, since the loudspeaker is exposed in the inside of motorcar, the loudspeaker is a hindrance for the driver or passengers, and the loudspeaker is not fixed so that one cannot expect to a good acoustic efficiency from

it.

The applicant have found that it is desirable that the loudspeakers are housed in the inside of a headrest

#### SUMMARY OF THE INVENTION

5 An object of the present invention is to obviate the drawbacks of the prior art and to provide a headrest containing loudspeakers therein by which it is made possible to provide a quiet and distinct sound for a driver or passengers. In general, the headrest is provided with a frame to which two connecting rods are mounted, the 10 connecting rods connects the headrest to the back of seat. The loudspeakers may be housed in the headrest using the frame. When the loudspeakers are housed in the headrest, the loudspeakers may be placed to adjacent to the ears so that one can listen a quiet and distinct sound from them even in low sound pressure level.

15 The present invention will become clear from the following description of the invention and with reference to the accompanying drawings.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of speaker units and a frame of 20 headrest according to the present invention.

Fig. 2 is a cross-sectional view of the headrest according to the present invention.

## DETAILED DESCRIPTION OF THE INVENTION

In drawings, a headrest 10 is comprised of a frame 12, an enclosure 14 defining a space 16 with the frame 13, and an outer pad 18 covering the frame 12 and the enclosure 14. The frame 12 has a mount 20 at which a pair of clips 22 and 22' are attached for connecting a pair of connecting rods 24 and 24'. An upper bent end of connecting rods 24 and 24' is clamped of the clips respectively and the connecting rods connect the headrest 10 to a back of seat (not shown).

The frame 12 is formed with two circular holes 26 and 26' for attaching two speaker units 28 and 28', respectively. The speaker units 28 and 28' is housed in the space 16 with attaching at the backside of frame 12.

In a front portion of the headrest, two acoustic guide-holes 30, of which one is shown in Fig. 2, are opened at the outer pad 18 such that each of acoustic guide-holes 30 is aligned with each of the circular holes 26 and 26' of frame 12 and the speaker units 28 and 28' housed in the space 16.

Speaker units 28 and 28' are attached to the backside of the circular holes 26 and 26' which are formed at the frame 12 so that the speaker units 28 and 28' are firmly supported by the frame 12 and protected from vibration. Therefore, speaker units 28 and 28' can transmitt a stable sound to passengers. And the space 16 act as an acoustic enclosure causing to rise the acoustic efficiency of speaker units.

Moreover, speaker units 28 and 28' according to the present invention are attached to the frame 12 with spacing each other so that the sound produced from speaker units is separated to enhance the stereophonic effect and transmitted to the passenger even in low volume. Therefore passenger can listen the stereophonic sound with his head leaning against the headrest and delight in music without bothering a neighbor.

Since the speaker units are housed in the inside of the headrest, the speaker units cannot hinder the passengers from occupying the seat. 10 The outer pad 18 covering the frame 12 is made of a foam material such as sponge and a cloth to have a permeability for transmitting sound from the speaker units.

In this manner, the headrest containing loudspeakers according to the present invention is made possible to provide a quiet and distinct 15 sound for passengers and provide an advantage of arrangement for the speaker units without exposing out of the headrest.

It will be appreciated that the present invention is not restricted to the particular embodiment described hereinbefore, and that variations and modifications may be made therein without departing 20 from the spirit and scope of the invention.

## WHAT IS CLAIMED IS:

1. A headrest 10 for motorcar having a frame 12, an enclosure 14 defining a space 16, and an outer pad 18 covering said frame 12 and said enclosure 14, said frame 12 provided with two connecting rods 24 and 24' which connect said headrest 10 to a back of seat, characterized in that said frame 12 is formed with two circular holes 26 and 26' at which two speaker units 28 and 28' are attached respectively, and said space 16 contains said speaker units 28 and 28'.

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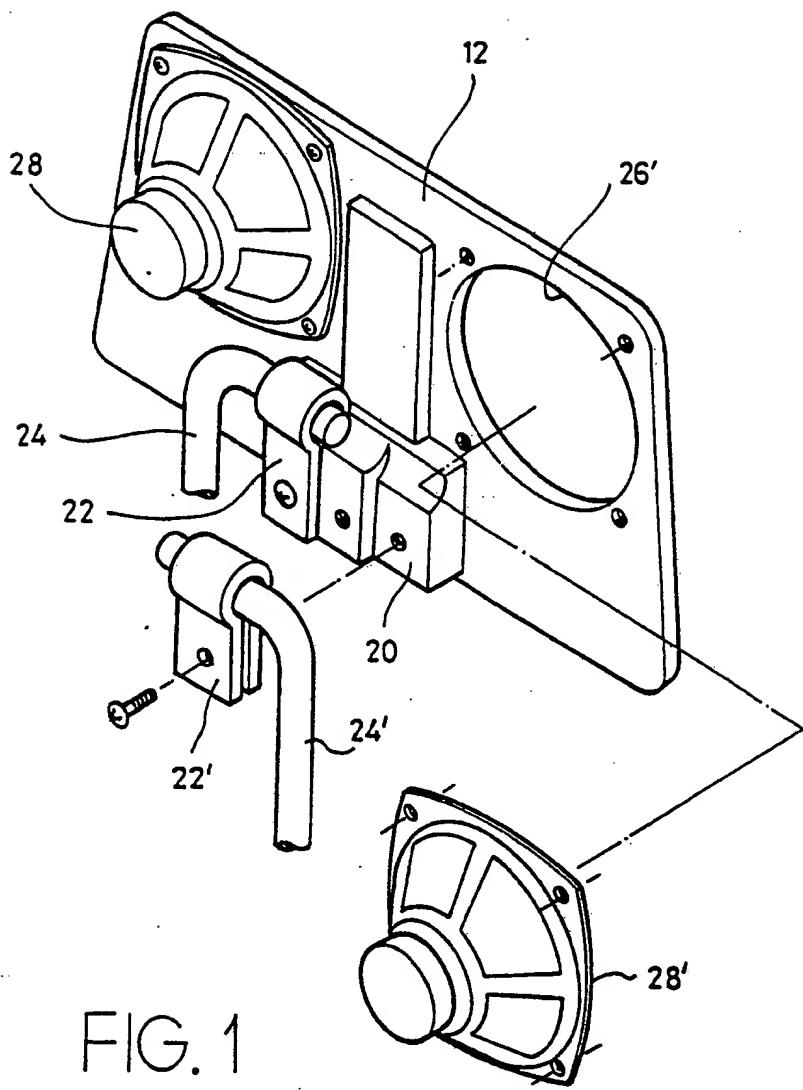


FIG. 1

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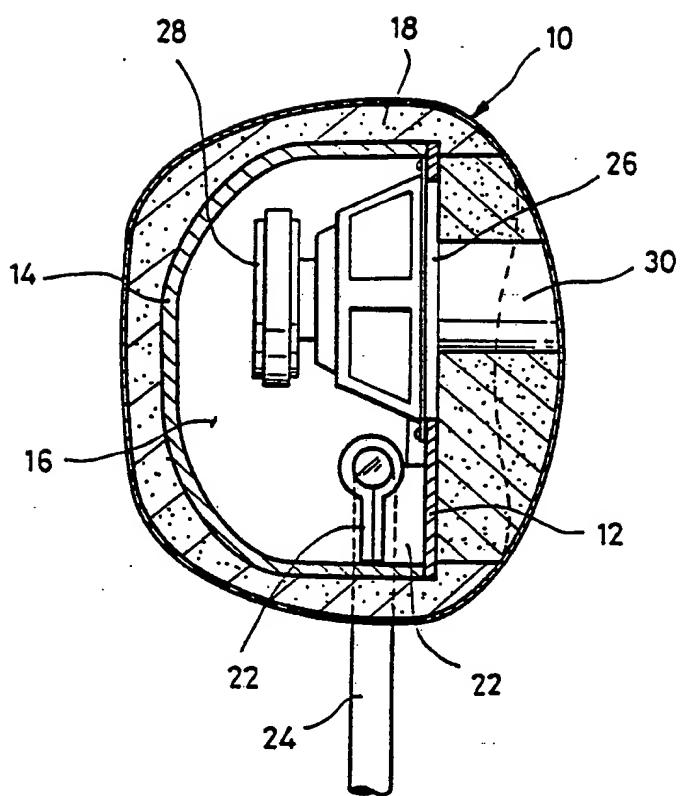


FIG. 2

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR 92/00032

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl. <sup>5</sup>: B 60 N 2/48; A 47 C 7/72; B 60 R 11/02  
 According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl. <sup>5</sup>: B 60-N 2/44, 2/48; B 60 R 11/00, 11/02; A 47 C 7/62, 7/72

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## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US, A, 3 512 605 (McCORKLE) 19 May 1970 (19.05.70), see totality.	1
X	US, A, 3 385 393 (GOLD) 28 May 1968 (28.05.68), see totality.	1
A	DE, A1, 2 349 425 (AUDI NSU AUTO UNION AG) 10 April 1975 (10.04.75), see totality.	1
A	EP, A2 / A3, 0 305 062 (HUFNAGEL) 01 March 1989 (01.03.89), see fig. 1; abstract.	1
A	US, A, 3 384 719 (LANZARA) 21 May 1968 (21.05.68), see totality.	1



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Im Recherchenbericht angeführtes Patentdokument Patent document cited in search report Document de brevet cité dans le rapport de recherche		Datum der Veröffentlichung Publication date Date de publication	Mitglied(er) der Patentfamilie Patent family member(s) Membre(s) de la famille de brevets	Datum der Veröffentlichung Publication date Date de publication
US A	3512605	19-05-70	keine - none - rien	
US A	3385393	28-05-68	keine - none - rien	
DE A1	2349425	10-04-75	keine - none - rien	
EP A3	305062	07-06-89	EP A2 305062 JP A2 1104204 US A 4797934	01-03-89 21-04-89 10-01-89
US A	3384719	21-05-68	keine - none - rien	